

L2 STRUCTURE UPLOADED

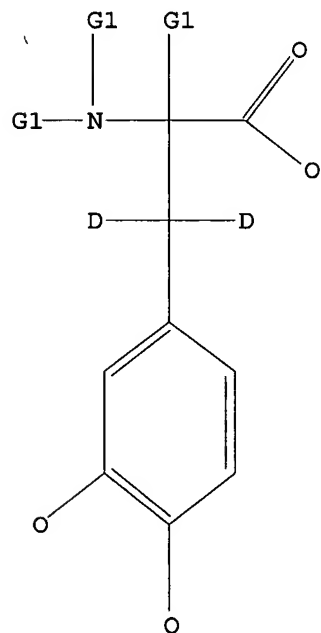
=> que L2 AND L1

L3 QUE L2 AND L1

=> d L2

L2 HAS NO ANSWERS

L2 STR



Structure attributes must be viewed using STN Express query preparation.

=> s L2 full

FULL SEARCH INITIATED 16:07:36 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 14551 TO ITERATE

100.0% PROCESSED 14551 ITERATIONS
SEARCH TIME: 00.00.01

52 ANSWERS

L4 52 SEA SSS FUL L2

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

FULL ESTIMATED COST

ENTRY

SESSION

172.10

172.31

FILE 'CAPLUS' ENTERED AT 16:07:42 ON 06 FEB 2007

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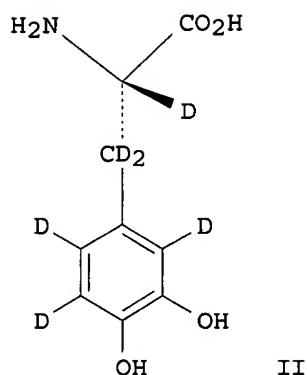
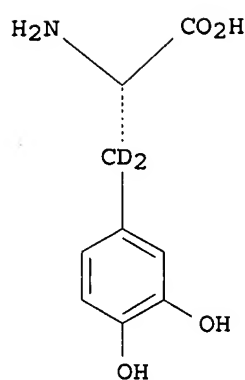
=> s L4

L5 24 L4

=> d L5 1-24 bib abs

L5 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:525997 CAPLUS
DN 141:89365
TI Deuterated catecholamine derivatives as well as these compounds containing drug
IN Alken, Rudolf-Giesbert
PA Turicum Drug Development AG, Switz.
SO Ger. Offen., 12 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10261807	A1	20040701	DE 2002-10261807	20021219
	CA 2513088	A1	20040708	CA 2003-2513088	20031218
	WO 2004056724	A1	20040708	WO 2003-DE4203	20031218
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003289841	A1	20040714	AU 2003-289841	20031218
	EP 1613571	A1	20060111	EP 2003-782168	20031218
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1738782	A	20060222	CN 2003-80108990	20031218
	JP 2006510686	T	20060330	JP 2004-561054	20031218
	US 2006135615	A1	20060622	US 2006-539845	20060209
PRAI	DE 2002-10261807	A	20021219		
	WO 2003-DE4203	W	20031218		
OS	MARPAT 141:89365				
GI					



AB The present invention concerns preparation of deuterated catecholamine derivs. and their therapeutic use in treating medical conditions, either alone or in conjunction with other active agents. In addition the invention concerns the use of deuterated catecholamine derivs. as well as their physiol. compatible salts, or pharmaceutical compns. containing deuterated catecholamine derivs. or their physiol. compatible salts, for the treatment of illnesses of lack of dopamine and/or illnesses, which are based on disturbed tyrosine transport or disturbed tyrosine decarboxylase, such as Parkinson's disease, Restless Legs syndrome, dystonia, for the inhibition of prolactin secretion, for the stimulation of growth hormone release, for the treatment of the neurol. symptoms of chronic manganese poisonings, of amyotrophic lateral sclerose and of multiple system atrophy, as well as the prophylaxis of psychoses, schizophrenia, and acute psychoses, preferably psychoses with neg. symptomatol., in particular also schizophrenia (no data). Thus, a DL-mixture of 2-acetylamino-3,3-dideuterio-3-(3,4-dimethoxyphenyl)propionic acid was resolved using (R)-1-phenethylamine, and the D- and L-free bases isolated; the L-fraction was N-deacetylated and O-demethylated to give title compound (I) in 96% yield. Similarly prepared were the D-I, and (II) in 92 and 84%, resp.

L5 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:357850 CAPLUS

DN 133:129208

TI EPR Studies of Chromium(V) Intermediates Generated via Reduction of Chromium(VI) by DOPA and Related Catecholamines: Potential Role for Oxidized Amino Acids in Chromium-Induced Cancers

AU Pattison, David I.; Lay, Peter A.; Davies, Michael J.

CS School of Chemistry, University of Sydney, Sydney, 2006, Australia

SO Inorganic Chemistry (2000), 39(13), 2729-2739

CODEN: INOCAJ; ISSN: 0020-1669

PB American Chemical Society

DT Journal

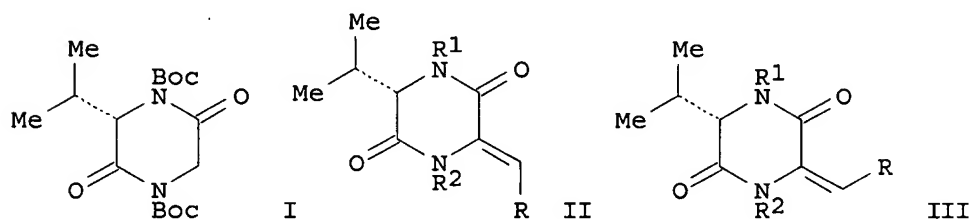
LA English

AB The redns. of K₂Cr₂O₇ by catecholamines, DOPA, DOPA-β,β-d₂, N-acetyl-DOPA, α-methyl-DOPA, dopamine, adrenaline, noradrenaline, catechol, 3,4-dihydroxybenzoic acid (DHBA), and 4-tert-butylcatechol (TBC), produce a number of Cr(V) EPR signals. These species are of interest in relation to the potential role of oxidized proteins and amino acids in Cr-induced cancers. With excess organic ligand, all of the substrates yield Cr species with signals at giso .apprx. 1.972 (Aiso(53Cr) > 23.9 + 10⁻⁴ cm⁻¹). These are similar to signals reported previously but were reassigned as octahedral Cr(V) species with mixed catechol-derived ligands, [CrV(semiquinone)₂(catecholate)]⁺. Expts. with excess K₂Cr₂O₇ show complex behavior with the catecholamines and TBC. Several weak Cr(V) signals are detected after mixing, and the spectra evolve over time to yield relatively stable substrate-dependent signals at giso .apprx. 1.980. These signals were attributed to [Cr(O)L₂]- (L = diolato) species, in which the Cr is coordinated to two cyclized catecholamine ligands and an

oxo ligand. Isotopic labeling studies with DOPA (ring or side chain deuteration or enrichment with ^{15}N), and simulation of the signals, show that the superhyperfine couplings originate from the side chain protons, confirming that the catecholamine ligands are cyclized. At pH 3.5, a major short-lived EPR signal is observed for many of the substrates at giso .apprx. 1.969, but the species responsible for this signal was not identified. Several other minor Cr signals are detected, which are attributed (by comparison with isoelectronic V(IV) species) to Cr(V) complexes coordinated by a single catecholamine ligand (and auxiliary ligands e.g. H_2O), or to $[\text{Cr}(\text{O})\text{L}_2]^-$ (L = diolato) species with a 6th ligand (e.g. H_2O). Addition of catalase or deoxygenation of the solns. did not affect the main EPR signals. When the substrates were in excess (pH > 4.5), primary and secondary (cyclized) semiquinones were also detected. Semiquinone stabilization by Zn(II) complexation yielded stronger EPR signals (giso .apprx. 2.004).

RE.CNT 77 THERE ARE 77 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1998:172416 CAPLUS
DN 128:283042
TI Stereo-divergent synthesis of L-threo- and L-erythro-[2,3-2H₂]amino acids using optically active dioxopiperazine as a chiral template
AU Oba, Makoto; Terauchi, Tsutomu; Owari, Yuki; Imai, Yoko; Motoyama, Izumi; Nishiyama, Kozaburo
CS Department of Material Science and Technology, Tokai University, Shizuoka, 410-03, Japan
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1998), (7), 1275-1282
CODEN: JCPRB4; ISSN: 0300-922X
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 128:283042
GI



AB A stereodivergent synthesis of L-threo- and L-erythro-[2,3-2H₂]amino acids from the same chiral auxiliary is described. Aldolization of protected dioxopiperazine I (Boc = CO₂CMe₃), derived from L-valine, with various aldehydes RCHO [R₁ = Ph, 4-MeOC₆H₄, 3,4-(MeO)₂C₆H₃, Me₂CD] followed by successive elaboration gives various 2,3-dehydroamino acid derivs II and III (R₁ = R₂ = H, Boc; R₁ = Boc, R₂ = H, Ac; R₁ = Ac, R₂ = Ac, Boc). Catalytic deuteration of II and III followed by acidic hydrolysis affords L-[2,3-2H₂]amino acids in good yields with high optical purities. It becomes clear that diastereoselective deuteration for either the threo or the erythro isomer depends upon the protective groups on the nitrogen atoms in the dioxopiperazine ring. Thus, catalytic deuteration of II (R₁ = R₂ = Boc) gave 74% L-erythro-[2,3-2H₂]phenylalanine with 98% e.e., while catalytic deuteration of II (R₁ = R₂ = H) gave 85% L-threo-[2,3-2H₂]phenylalanine with 91% e.e.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1994:260260 CAPLUS
 DN 120:260260
 TI Quantitative analysis of low molecular weight compounds of biological interest by matrix-assisted laser desorption ionization
 AU Duncan, Mark W.; Matanovic, Gabrijela; Cerpa-Poljak, Anne
 CS Biomed. Mass Spectrometry Unit, Univ. New South Wales, Kensington, 2033, Australia
 SO Rapid Communications in Mass Spectrometry (1993), 7(12), 1090-4
 CODEN: RCMSEF; ISSN: 0951-4198
 DT Journal
 LA English
 AB Internal stds. were used to demonstrate that matrix-assisted laser desorption/ionization (MALDI) mass spectrometry can be applied to the quant. anal. of low mol. weight polar compds. Three examples were tested: a standard curve for 3,4-dihydroxyphenylalanine (DOPA) was prepared using a stable isotope analog (i.e., [¹³C₆]DOPA) as an internal standard; [²H₁₆]-acetylcholine was employed as an internal standard for the quantification of acetylcholine; and in the final example, the peptide Ac-Ser-Ile-Arg-His-Tyr-NH₂ was used as an internal standard for the quantification of the peptide H-Ser-Ala-Leu-Arg-His-Tyr-NH₂. In each instance, straight line fits ($r^2 > 0.95$) demonstrate that MALDI is a viable approach for the quant. anal. of low mol. weight analytes.

L5 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1992:465960 CAPLUS
 DN 117:65960
 TI Preparation of radioactively labeled isodityrosine
 AU Miller, Janice G.; Fry, Stephen C.
 CS Cent. Plant Sci., Univ. Edinburgh, Edinburgh, EH9 3JH, UK
 SO Phytochemical Analysis (1992), 3(2), 61-4
 CODEN: PHANEL; ISSN: 0958-0344
 DT Journal
 LA English
 AB Oxidation of L-[U-¹⁴C]tyrosine with 2.7 molar equivalents of alkaline hexacyanoferrate(III) yielded at least 12 chromatog. mobile oxidation products and a large amount of immobile material. Use of 0.23 molar equivalents of hexacyanoferrate(III) yielded [¹⁴C]dityrosine (.apprx.1.3% of added [¹⁴C]tyrosine) and [¹⁴C]isodityrosine (.apprx.0.6%). A chromatog. method is described for the isolation of these two products from the mixture. A method is also described for the preparation of [³H]isodityrosine from non-radioactive isodityrosine by catalytic exchange with 3H₂. The [³H]isodityrosine formed was essentially stable in 6 M HCl at 110°C, indicating that the tritiation occurred at the benzylic groups.

L5 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1991:118039 CAPLUS
 DN 114:118039
 TI Fast enzymic preparation of L-DOPA from tyrosine and molecular oxygen: a potential method for preparing [oxygen-¹⁵]L-DOPA
 AU Maddaluno, Jacques F.; Faull, Kym F.
 CS Sch. Med., Stanford Univ., Stanford, CA, 94305, USA
 SO Applied Radiation and Isotopes (1990), 41(9), 873-8
 CODEN: ARISEF; ISSN: 0883-2889
 DT Journal
 LA English
 AB A fast, simple, and inexpensive enzymic preparation of L-DOPA from mol. oxygen and tyrosine using mushroom tyrosinase is described. The theor. incubation time for production of [¹⁵O]L-DOPA with maximal specific activity from [¹⁵O]₂ can be calculated to be about 3 min. In practice, using a specially designed glass reaction chamber to facilitate the incorporation of gaseous mol. oxygen into L-DOPA with zero lag-time, a 3-min reaction with 1% oxygen in nitrogen results in the formation of approx. 3.9 μmol

of L-DOPA, representing conversion of about 14% of the tyrosine substrate. Given access to a supply of [15O]O₂, the method should be applicable to the preparation of [15O]L-DOPA for use as a PET tracer.

L5 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1990:508668 CAPLUS

DN 113:108668

TI Comparative in vivo metabolism of 6-[18F]fluoro-L-DOPA and [3H]L-DOPA in rats

AU Melega, William P.; Luxen, Andre; Perlmutter, Milton M.; Nissenson, Charna H. K.; Phelps, Michael E.; Barrio, Jorge R.

CS Sch. Med., UCLA, Los Angeles, CA, 90024, USA

SO Biochemical Pharmacology (1990), 39(12), 1853-60

CODEN: BCPCA6; ISSN: 0006-2952

DT Journal

LA English

AB In vivo double-labeled expts in rats were designed to correlate the peripheral and cerebral metabolism of 6-[18F]fluoro-L-DOPA ([18F]FDOPA) with that of [3H]L-DOPA. Authentic samples of the major [18F]DOPA metabolites were synthesized to identify the 18F-labeled metabolites. After carbidopa pretreatment and i.v. administration of the compound, the products of peripheral metabolism in plasma were analyzed at times from 3 to 60 min. In the periphery, amine conjugates were detected but they accounted for <15% of the total radioactivity; the major metabolites were 3-O-methyl-6-[18F]fluoro-L-DOPA and 3-O-methyl-[3H]L-DOPA. The rate and extent of 3-O-methylation of [18F]FDOPA exceeded that [3H]L-DOPA. Both 3-O-methylated products entered the striatum and cerebellum where they contributed significant but uniform activity. Anal. of cerebral metabolism in these structures indicated a linear accumulation of total radioactivity: a striatum/cerebellum ratio of 2 was observed by 60 min. 6-[18F]fluorodopamine (35%) and [3H]dopamine (55%) were the major metabolites formed in the striatum: however, the methylated [18F]FDOPA and [3H]DOPA products of predominantly peripheral origin represented 55% (18F) and 35% (3H) of the total radioactivity, resp. Other [3H]dopamine metabolites and their 18F-labeled analogs represented <10-15% at times analyzed. The cerebellum radioactivity was composed only of [18F]FDOPA, [3H]DOPA and their 3-O-methylated products. These data will serve as the basis for the development of kinetic models of [18F]FDOPA metabolism that can be applied to the evaluation of central dopamine biochem. with positron emission tomog. in humans.

L5 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1987:403324 CAPLUS

DN 107:3324

TI Cerebral metabolism of 6-[18F]fluoro-L-3,4-dihydroxyphenylalanine in the primate

AU Firnau, G.; Sood, S.; Chirakal, R.; Nahmias, C.; Garnett, E. S.

CS Chedoke-McMaster Hosp., McMaster Univ., Hamilton, ON, Can.

SO Journal of Neurochemistry (1987), 48(4), 1077-82

CODEN: JONRA9; ISSN: 0022-3042

DT Journal

LA English

AB The tracers 6-[18F]fluoro-L-DOPA and L-[14C]DOPA were injected simultaneously into rhesus monkeys, and the time course of their metabolites was measured in the striatum and in the occipital and frontal cortices. In the striatum, 6-[18F]fluoro-L-DOPA was metabolized to 6-[18F]fluorodopamine, 3,4-dihydroxy-6-[18F]fluorophenylacetic acid, and 6-[18F]fluorohomovanillic acid. The metabolite pattern was qual. similar to that of L-[14C]DOPA. 6-[18F]Fluorodopamine was synthesized faster than [14C]dopamine. In the frontal cortex, the major metabolite was also 6-[18F]fluorodopamine or [14C]dopamine. In the occipital cortex, the major metabolite was 3-O-methyl-6-[18F]fluoro-L-DOPA. On the basis of these data, the images obtained with 6-[18F]fluoro-L-DOPA and positron emission tomog. in humans can now be interpreted in neurochem. terms.

L5 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1986:81911 CAPLUS
 DN 104:81911
 TI Changes in brain catecholamine levels following DL-DOPA are not
 potentiated by deuterium substitution
 AU Dewar, Karen M.; Dyck, Lillian E.; Durden, David A.; Boulton, A. A.
 CS Psychiatr. Res. Div., Univ. Saskatchewan, Saskatoon, SK, S7N 0W0, Can.
 SO Progress in Neuro-Psychopharmacology & Biological Psychiatry (1985),
 9(5-6), 675-80
 CODEN: PNPPD7; ISSN: 0278-5846
 DT Journal
 LA English
 AB In rats treated with either DL-dopa [63-84-3] or its deuterated analog
 D3-DL-dopa [100364-65-6], total dopamine [51-61-6] levels in
 the brain striatum increased above control values; however, no differences
 were observed in the effects between these 2 treatments. Total noradrenaline
 [51-41-2] levels were not significantly altered by treatment with either
 DL-dopa or D3-DL-dopa. Thus, D substitution does not appear to affect
 catecholamine deamination or β -hydroxylation in vivo.

L5 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1984:403121 CAPLUS
 DN 101:3121
 TI Characteristics of kinetics of metabolism and the biological action of
 tritium-labeled organic compounds
 AU Zhuravlev, V. F.; Kalyazina, N. S.; Klykov, O. V.; Goryacheva, T. I.
 CS USSR
 SO Biol. Effekty Mal. Doz. Radiatsii, M. (1983) 74-7
 From: Ref. Zh., Radiats. Biol. 1984, Abstr. No. 270102
 DT Journal
 LA Russian
 AB Title only translated.

L5 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1983:418678 CAPLUS
 DN 99:18678
 TI Magnitude of intrinsic isotope effects in the dopamine
 β -monooxygenase reaction
 AU Miller, Susan M.; Klinman, Judith P.
 CS Dep. Chem., Univ. California, Berkeley, CA, 94720, USA
 SO Biochemistry (1983), 22(13), 3091-6
 CODEN: BICHAW; ISSN: 0006-2960
 DT Journal
 LA English
 AB Intrinsic primary H isotope effects (kH/kD) were obtained for the C-H bond
 cleavage step catalyzed by bovine adrenal gland dopamine
 β -monooxygenase (I). The irreversibility of this step is inferred
 from the failure to observe back-exchange of 3H from 3H01H into substrate
 under conditions of dopamine turnover; this result cannot be due to
 solvent inaccessibility at the enzyme active site, since a solvent-derived
 proton or triton must be at the enzyme active site prior to substrate
 activation. As shown by D. B. Northrop (1975) for enzymic reactions in
 which the C-H bond cleavage step is irreversible, comparison of D(V/K) to
 T(V/K) allows an explicit solution for kH/kD. By employing a double-label
 tracer method, deuterium isotope effects on Vmax/Km could be measured with
 high precision, D(V/K) = 2.756 at pH 6.0. The magnitude of the tritium
 isotope effect under comparable exptl. conditions was T(V/K) = 6.079
 yielding kH/kD = 9.4. This result was obtained in the presence of saturating
 concns. of the anion activator, fumarate. Elimination of fumarate from
 the reaction mixture led to high observed values for isotope effects on
 Vmax/Km, together with an essentially invariant value for kH/kD = 10.9.
 Thus, the large disparity between isotope effects, plus or minus fumarate,
 cannot be accounted for by a change in kH/kD, and it is concluded that
 fumarate plays a role in the modulation of the partitioning of
 enzyme-substrate complex between catalysis and substrate dissociation On the

basis of literature correlations of primary H isotope effects and the thermodyn. properties of H-transfer reactions, the very large magnitude of $kH/kD = 9.4-10.9$ for I suggests an equilibrium constant close to unity for the C-H bond cleavage step. This feature, together with the failure to observe re-formation of dopamine from enzyme-bound intermediate or product and overall rate limitation of enzyme turnover by product release, leads to the proposal of a stepwise mechanism for norepinephrine formation from dopamine in which C-H bond cleavage is uncoupled from the O insertion step.

- L5 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1982:577974 CAPLUS
DN 97:177974
TI Standardization of tritium-labeled compounds
AU Kalyazina, N. S.; Klykov, O. V.; Zhuravlev, V. F.; Moskalev, Yu. I.
CS USSR
SO Meditsinskaya Radiologiya (1982), 27(8), 53-7
CODEN: MERAA9; ISSN: 0025-8334
DT Journal
LA Russian
AB The kinetics of the metabolism of tritium in rats following i.p. administration of tritiated organic compds. (thymidine, ethyleneglycol, cytidine, EtOH, glucose, AcOH, and dopa) differed from that of HTO. The rate of removal of tritium administered in an organic compound was slower than that of HTO. Also tissue levels of tritium were higher after administration of the label in organic compds. The toxicity of the organic tritiated compds. was also higher than that of HTO. The half-life constant, absorbed dose, and permissible concns. of tritium in workers exposed to HTO and the above-mentioned tritiated compds. were calculated
- L5 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1982:180880 CAPLUS
DN 96:180880
TI Deuterium exchange labeling of biologically important phenols, indoles, and steroids
AU Vining, R. F.; Smythe, G. A.; Long, M. A.
CS Garvan Inst. Med. Res., St. Vincent's Hosp., Sydney, 2010, Australia
SO Journal of Labelled Compounds and Radiopharmaceuticals (1981), 18(11), 1683-92
CODEN: JLCRD4; ISSN: 0362-4803
DT Journal
LA English
AB Deuterated analogs of phenolic steroids, catechols, and indole derivs. were prepared in high chemical yield by heating the relevant compound in D₂O at 190° in a sealed tube for 24 h. E.g., vanillin in D₂O gave >95% vanillin-5-d₁ almost exclusively. Care must be exercised in the heating of the sealed tubes due to considerable risk of explosion.
- L5 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1982:100179 CAPLUS
DN 96:100179
TI Effect of the form of the introduced compound and isotopic carrier on the kinetics of carbon-14, tritium, and iodine-125 metabolism
AU Moskalev, Yu. I.; Kalistratova, V. S.; Vasilenko, I. Ya.; Bugryshev, P. F.; Kalyazina, N. S.; Zhuravlev, V. F.
CS Inst. Biofiz., Moscow, USSR
SO Rep.-SAAS - Staatl. Amt Atomsicherh. Strahlenschutz DDR (1981), SAAS-280, Itogovaya Konf. Nauchno - Tekh. Sotr. Obl. Radiats. Bezop. Minist. Zdravookhr. SSSR Gos. Upr. At. Bezop. Zashch. Izluch. Period 1979 - 1980, 181-96
CODEN: RSADDL; ISSN: 0138-2551
DT Report
LA Russian
AB The effects of form (organic or inorg.) on the metabolism of ¹⁴C, ³H, and ¹²⁵I in

rats were studied. The inorg. $\text{Na}_2^{14}\text{CO}_3$, $\text{K}_2^{14}\text{CO}_3$, and $\text{Ca}^{14}\text{CO}_3$ were rapidly absorbed by the gastrointestinal tract and $^{14}\text{CO}_2$ was rapidly eliminated via respiration. The organic labeled compds. glucose- ^{14}C , glycine- ^{14}C , and palmitate- ^{14}C were also rapidly absorbed by the intestine, but greater amts. of label were found in tissues, especially after glycine and palmitate administration. Labeling of tissues was also higher following administration of tritiated organic compds. (dopa-3H, $[\text{3H}]\text{EtOH}$, glucose-3H, acetate-3H, thymidine-3H, and cytidine-3H) than after tritium oxide administration. Accumulation (30-day) of label from dopa-3H was less by a factor of 3 and that of thymidine-3H was 28-fold greater than that of tritium oxide. In rats, resorption of ^{125}I by the gastrointestinal tract was not affected by the presence of the isotope carrier ^{127}I ; however, incorporation of ^{125}I by the thyroid gland was inhibited by the carrier.

L5 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1981:1628 CAPLUS
 DN 94:1628
 TI Tritiated DOPA: distribution in subcellular melanoma fractions and prospects for its radiotherapeutical use
 AU Gavrilenko, I. S.; Rumyantsev, P. P.; Bulychev, A. G.; Zarembskii, R. A.; Ivanov, I. I.
 CS Lab. Cell. Morphol., Inst. Cytol., Leningrad, USSR
 SO Radiobiologia, Radiotherapia (1980), 21(4), 525-31
 CODEN: RDBGAT; ISSN: 0033-8184
 DT Journal
 LA German
 AB DOPA-3H was prepared and after injection into mice with Harding-Passey melanoma, radioactivity was selectively incorporated into tumor melanosomes and especially mitochondria. The incorporation of label into these 2 tumor cell fractions was associated with increases in tyrosinase activity. The highly selective absorption of DOPA-3H by melanocytes indicates that DOPA may be useful as the carrier of an emitter for the internal radiation therapy of melanoma.

L5 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1979:18868 CAPLUS
 DN 90:18868
 TI Autoradiographic and metabolic studies of Mycobacterium leprae
 AU Khanolkar, Saroj R.; Ambrose, E. J.; Chulawala, R. G.; Bapat, C. V.
 CS Found. Med. Res., Worli, India
 SO Leprosy Review (1978), 49(3), 187-98
 CODEN: LEREEA; ISSN: 0305-7518
 DT Journal
 LA English
 AB Highly purified suspensions of M. leprae showed a progressive increase in the incorporation of thymidine-3H and DOPA(I)-3H in short-term cultures as shown by scintillation counting. The intact bacilli are known to have a high permeability barrier. Apparently, I-3H becomes trapped within this barrier and oxidized inside the bacilli. Tests by pretreatment with di-Et diithiocarbamate, an inhibitor of I, cold I, or hyaluronidase distinguished the uptake of I-3H by bacilli from the effects of connective tissue contamination. Similar increases in the labeling of bacilli by scintillation counting were observed by autoradiog. of the organisms. The scintillation method shows promise for rapidly identifying drug resistance in lepromatous patients relapsing while on treatment with dapsone, rifampicin, clofazimine, or other anti-leprosy drugs.

L5 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1973:402362 CAPLUS
 DN 79:2362
 TI Preparation of L-tyrosine-ring- ^{14}C , L-dopa- ring- ^{14}C , and related metabolites
 AU Ellis, B. E.; Major, G.; Zenk, M. H.
 CS Ruhr-Univ., Bochum-Querenburg, Fed. Rep. Ger.
 SO Analytical Biochemistry (1973), 53(2), 470-7

CODEN: ANBCA2; ISSN: 0003-2697

DT Journal
LA English

AB The reversibility of the tyrosine phenol-lyase reaction was utilized to develop a simple system in which phenol-¹⁴C is incorporated into L-tyrosine in high yield. By use of mushroom tyrosinase, catechol-¹⁴C can be prepared from phenol-¹⁴C and L-dopa-¹⁴C from L-tyrosine-¹⁴C. Catechol-¹⁴C can also be incorporated into L-dopa-¹⁴C by use of tyrosine phenol-lyase, giving the possibility of preparing dopa with 2 labeling patterns in the ring when starting from phenol-¹⁴C. Two further tyrosine metabolites, p-coumaric acid and homogentisic acid, were also enzymically prepared with ¹⁴C in the ring.

L5 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1973:148206 CAPLUS
DN 78:148206

TI Possible differential radiolysis of amino acid optical isomers by carbon-¹⁴-labeled betas

AU Bernstein, William James; Lemmon, Richard M.; Calvin, Melvin

CS Lawrence Radiat. Lab., Univ. California, Berkeley, CA, USA

SO Mol. Evol. (1972), 151-5. Editor(s): Rohlfing, Duane L. Publisher: Plenum, New York, N. Y.
CODEN: 26NJAU

DT Conference
LA English

AB No differential radiolysis of the D- and L-isomers was detected in samples of ¹⁴C-labeled DL-amino acids irradiated internally by β - particles and their bremsstrahlung derived from the ¹⁴C, for 12-24 years. The radiation doses were 2.5-10.4 $\times 10^7$ rads. Norvaline, alanine, DOPA, aspartic acid, and methionine were analyze

L5 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1972:527015 CAPLUS
DN 77:127015

TI Thin-layer chromatographic separation of optical isomers on labeled dopa via dipeptide formation

AU Barooshian, Armen V.; Lautenschleger, Margaret J.; Harris, Wayne G.

CS Anal. Dep., New England Nucl. Corp., Boston, MA, USA

SO Analytical Biochemistry (1972), 49(2), 569-71
CODEN: ANBCA2; ISSN: 0003-2697

DT Journal
LA English

AB DL-Dopa-carboxyl-¹⁴C reacted with L-leucine-N-carboxy anhydride to give a diastereomeric mixture of L-Leu-D-Dopa-¹⁴C (I) and L-Leu-L-Dopa-¹⁴C (II). Thin-layer chromatog. of I and II gave R_f 0.38 and 0.56, resp.

L5 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1971:72582 CAPLUS
DN 74:72582

TI [³H]-Dopa in [³H]-tyrosine with high specific activity: a serious complication in the study of catechol amine metabolism

AU Waldeck, Bertil

CS Dep. Pharmacol., Univ. Goteborg, Goteborg, Swed.

SO Journal of Pharmacy and Pharmacology (1971), 23(1), 64-5
CODEN: JPPMAB; ISSN: 0022-3573

DT Journal
LA English

GI For diagram(s), see printed CA Issue.

AB The use of ³H-labeled tyrosine (I) with high specific activity, contaminated with 10% ³H-labeled dopa (3,4-dihydroxyphenyl-alanine), for the study of catechol amine metabolism in rats gave abnormally high values for the yields of labeled noradrenaline and dopamine. The levels of radioactive metabolites in heart were most significantly increased by the contamination, as compared with those in the caudate nucleus and the spinal cord.

L5 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1970:510104 CAPLUS
 DN 73:110104
 TI Deuteration and tritiation of aryl aldehydes in the formyl group and the synthesis of (+)-3,4-dihydroxy[β -2H₂]phenylalanine
 AU Bennett, David John; Kriby, G. W.; Moss, V. A.
 CS Chem. Dep., Univ. Technol., Loughborough, UK
 SO Journal of the Chemical Society [Section] C: Organic (1970), (15), 2049-51
 CODEN: JSOOAX; ISSN: 0022-4952
 DT Journal
 LA English
 OS CASREACT 73:110104
 AB Aryl aldehydes were converted into the corresponding α -aryl- α -morpholinoacetonitriles and by treatment with base into the derived benzylic anions. Quenching of these anions with D₂O or T₂O followed by hydrolysis with mineral acid, gave formyl-labeled aldehydes. 3,4-Dimethoxybenzaldehyde-formyl-d gave, when heated with alkali, 3,4-dimethoxybenzyl-methylene-d₂ alc., a convenient starting material for the synthesis of (\pm)-3,4-dihydroxyphenylalanine- β , β -d₂.

L5 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1970:435751 CAPLUS
 DN 73:35751
 TI Chemistry of melanins. XI. Distribution of the polymeric linkages in dopa-melanin
 AU King, J. A. G.; Percival, A.; Robson, N. C.; Swan, G. A.
 CS Dep. Org. Chem., Univ. Newcastle upon Tyne, Newcastle upon Tyne, UK
 SO Journal of the Chemical Society [Section] C: Organic (1970), (10), 1418-22
 CODEN: JSOOAX; ISSN: 0022-4952
 DT Journal
 LA English
 AB Samples of (\pm)-3,4-dihydroxyphenylalanine deuterated at the α -, β -, 2-, 5-, and 6-positions were each converted into melanin, both by autoxidn. and enzymically, and the incorporation of D into these melanins was measured. The results were interpreted in terms of an outline structure suggested for dopa-melanin on the basis of earlier expts.; and the relative nos. of polymeric linkages at different positions of the polymeric units were estimated. No evidence was found that enzymic dopa-melanin was fundamentally different from the autoxidative melanin. Dopa-melanin, prepared in vitro, appears to be an irregular polymer, containing a number of different types of unit, linked in various ways.

L5 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1970:415200 CAPLUS
 DN 73:15200
 TI Studies related to the chemistry of melanins. IX. Syntheses of specifically deuteriated 3,4-dihydroxyphenethylamines and (+)-3,4-dihydroxyphenylalanines
 AU Binns, F.; King, J. A. G.; Percival, A.; Robson, N. C.; Swan, George A.
 CS Dep. Org. Chem., Univ. Newcastle upon Tyne, Newcastle upon Tyne, UK
 SO Journal of the Chemical Society [Section] C: Organic (1970), (8), 1134-8
 CODEN: JSOOAX; ISSN: 0022-4952
 DT Journal
 LA English
 AB 3,4-Dihydroxyphenethylamine-HCl and (\pm)-3,4-dihydroxyphenylalanine deuterated at the α -, β -, 2-, 5, and 6-positions (sep.) were synthesized.

L5 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2007 ACS on STN
 AN 1966:35729 CAPLUS
 DN 64:35729
 OREF 64:6602a-b

TI Some studies of the formation and structure of melanins
 AU Swan, George Albert
 CS Univ. Newcastle-upon-Tyne, UK
 SO Rend. Accad. Sci. Fis. Mat. (Soc. Nazl. Sci., Napoli) (1964), 31, 212-31
 DT Journal
 LA English
 AB In addition to a literature review on the subject (25 references), studies are described of the formation of melanins (I), (a) enzymically, and (b) by autoxidn. from 2,3-(HO)2C6H3CH2CH(CO2H)NH2 (II) and 2,3-(HO)2C6H3CH2CH2NH2 (III). When II and III were labeled with D in the α or β position of the side chain and then converted to I, large retention of D was observed in the I. This suggests that the I are not polymers composed entirely of indole-5,6-quinone, but that they also contain uncyclized units of the precursors (or quinones derived from these) or (more probably) units of 2,3-dihydroindole-5,6-quinone. When I prepared from II-carboxy-14C was oxidized, the resulting pyrrole-2,3,5-tricarboxylic acid was radioactive while the pyrrole-2,3-dicarboxylic acid was inactive.

=>

---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	68.86	241.17
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-18.72	-18.72

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